

SEQUENCE LISTING

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<120> NOVEL ANTI-IGF-IR ANTIBODIES AND USES THEREOF

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<140> US 10/735,916

<141> 2003-12-16

<150> FR 03/08 538

<151> 2003-07-11

<150> PCT/FR 03/00 178

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<150> FR 02/00 653

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tct cca aag ctc ctg atc tac aaa gtt tcc aac cga ctt tat ggg gtc 246
 Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val
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 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys
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 Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr
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 Lys Val Ser Asn Arg Leu Tyr Gly Val Pro Asp Arg Phe Ser Gly Ser
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Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
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 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
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Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Ala Ser Gly Val Pro
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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
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 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro
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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
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 aaaggacgaa ggtcgtcact acaacactac tgagtcagag gtgagaggga cgggcagtgg 120
 ggacctctcg gccggaggta gaggacgtcc agatcagtct cgtaacatgt atcattacct 180
 ttgtggataa acgttaccat ggacgtcttc ggtcccgta gaggtgtcga ggactagata 240
 tttcaaagat tagccgaaat accccaggga ctgtccaagt caccgtcacc tagtccgtgt 300
 ctaaaatgtg acttttagtc gtctcacctc cgactcctac aaccccaaat aatgacgaaa 360
 gttccaagtg tacaaggcac ctgcaagccg gttccctggt tccaccttta gtttgcactc 420
 acctaggaga cgc 433

<210> 65
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 65
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 1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95

Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 66
 <211> 433

Val His Ser Asn Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro
 50 55 60

Gly Gln Ser Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Leu Tyr
 65 70 75 80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 100 105 110

Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val
 115 120 125

Glu Ile Lys
 130

<210> 68
 <211> 433
 <212> DNA
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 aaaggacgaa ggtcgtcact acaacactac tgagtcagag gtgagagggg cgggcagtgg 120
 ggacctctcg gccggaggta gaggacgtcc agatcagtct cgtaacatgt atcattacct 180
 ttgtggataa acgttaccat ggacgtcttc ggtcccgtca gaggtgtcga ggactagata 240
 tttcaaagat tagccgaaat accccaggga ctgtccaagt caccgtcacc tagtccgtgt 300
 ctaaaatgtg acttttagtc gtctcacctc cgactcctac aaccccaa atgacgaaa 360
 gttccaagtg tacaaggcac ctgcaagccg gttccctggt tccaccttta gtttgcactc 420
 acctaggaga cgc 433

<210> 69
 <211> 117
 <212> PRT
 <213> Mus musculus

<400> 69
 Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Gly Gly
 20 25 30

Tyr Leu Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
 35 40 45

Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60

Lys Asp Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
 65 70 75 80

Leu Lys Leu Asn Ser Val Thr Asn Glu Asp Thr Ala Thr Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Thr
 100 105 110

Leu Thr Val Ser Ser
 115

<210> 70
 <211> 118
 <212> PRT
 <213> Mus musculus

<400> 70
 Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
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Ser Leu Ser Leu Thr Cys Ser Val Thr Gly Tyr Ser Ile Thr Ser Gly
 20 25 30

Tyr Tyr Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
 35 40 45

Met Gly Tyr Ile Asn Tyr Asp Gly Asn Asn Asn Tyr Asn Pro Ser Leu
 50 55 60

Lys Asn Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
 65 70 75 80

Leu Lys Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
 85 90 95

Ala Arg Glu Gly Tyr Gly Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Leu Thr Val Ser Ser
 115

<210> 71
 <211> 118
 <212> PRT
 <213> Mus musculus

<400> 71
 Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Ser Gly
 20 25 30

Tyr Trp Asn Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
 35 40 45

Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
 50 55 60

Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Tyr Phe
 65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Tyr Gly Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser
 115

<210> 72
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 72
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Val Ser Ser Tyr
 20 25 30

Trp Ser Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Ile Gly Arg Ile Tyr Tyr Ser Gly Ser Thr Xaa Tyr Asn Pro Ser Leu
 50 55 60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Glu Leu Pro Gly Gly Tyr Asp Val Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 73
 <211> 123
 <212> PRT
 <213> Homo sapiens

<400> 73
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 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly
 20 25 30

Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Ile Gly Ser Met Phe His Ser Gly Ser Ser Tyr Tyr Asn Pro Ser Leu
 50 55 60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Gln Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Gly Arg Tyr Cys Ser Ser Thr Ser Cys Asn Trp Phe Asp Pro
 100 105 110
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 74
 <211> 98
 <212> PRT
 <213> Homo sapiens

<400> 74
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser Ser Gly
 20 25 30
 Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Ser Ile Tyr His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu
 50 55 60
 Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg

<210> 75
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 75
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr Gly Gly
 20 25 30
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60
 Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser

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<220>
<221> CDS
<222> (22) .. (426)
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<210> 77
 <211> 135
 <212> PRT
 <213> Homo sapiens

<400> 77
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 1 5 10 15
 Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
 20 25 30
 Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr
 35 40 45
 Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Met Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
 65 70 75 80
 Ser Leu Lys Asp Arg Ile Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
 85 90 95
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser
 130

<210> 78
 <211> 445
 <212> DNA
 <213> Homo sapiens

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 ggaccatagg acagagtcca cgtcgaagtc ctcagcccgg gtcctgacca cttcggaagc 120
 ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtggccacc aataaatacc 180
 ttgacctatg ccgtcggggg tcccttcctt gacctcacct accccatata gtcgatgctg 240
 ccatggttat tgatgtttgg gagggagttc ctagcttagt ggtatagtgc actgtgcagg 300
 ttcttggtca agagggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
 acacgtctta tgccatccca gaagaaactg atgaccccgg tcccttgga cagtggcag 420
 aggagtccac tcacctagga gacgc 445

<210> 79
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 79
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
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 20 25 30
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60
 Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
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 <211> 445
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (22)..(426)

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 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu
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 Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly
 15 20 25

 cca gga ctg gtg aag cct tcg gag acc ctg tcc ctc acc tgc act gtc 147
 Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val
 30 35 40

 tct ggt tac tcc atc acc ggt ggt tat tta tgg aac tgg ata cgg cag 195
 Ser Gly Tyr Ser Ile Thr Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln
 45 50 55

 ccc cca ggg aag gga ctg gag tgg atc ggg tat atc agc tac gac ggt 243
 Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly
 60 65 70

 acc aat aac tac aaa ccc tcc ctc aag gat cga gtc acc ata tca cgt 291
 Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Val Thr Ile Ser Arg
 75 80 85 90

 gac acg tcc aag aac cag ttc tcc ctg aag ctg agc tct gtg acc gct 339
 Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala
 95 100 105

gcg gac act gca gtg tat tac tgt gcg aga tac ggt agg gtc ttc ttt 387
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe
 110 115 120

gac tac tgg ggc cag gga acc ctg gtc acc gtc tcc tca ggtgagtgga 436
 Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 125 130

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<210> 81
 <211> 135
 <212> PRT
 <213> Homo sapiens

<400> 81
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 1 5 10 15
 Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
 20 25 30
 Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Thr
 35 40 45
 Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
 65 70 75 80
 Ser Leu Lys Asp Arg Val Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln
 85 90 95
 Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
 100 105 110
 Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
 115 120 125
 Thr Leu Val Thr Val Ser Ser
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<210> 82
 <211> 445
 <212> DNA
 <213> Homo sapiens

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 ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180
 ttgacctatg ccgtcggggg tcccttcctt gacctcacct agcccatata gtcgatgctg 240
 ccatggttat tgatgtttgg gagggagttc ctagctcagt ggtatagtgc actgtgcagg 300
 ttcttggtca agagggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
 acacgctcta tgccatccca gaagaaactg atgaccccgg tcccttgga ccaagtggcag 420
 aggagtccac tcacctagga gacgc 445

<210> 83
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 83
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 20 25 30
 Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
 35 40 45
 Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro Ser Leu
 50 55 60
 Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65 70 75 80
 Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110
 Val Thr Val Ser Ser
 115

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 <211> 445
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (22)..(426)

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 Met Lys Val Leu Ser Leu Leu Tyr Leu Leu 10
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 Thr Ala Ile Pro Gly Ile Leu Ser Gln Val Gln Leu Gln Glu Ser Gly 25
 15 20
 cca gga ctg gtg aag cct tcg gag acc ctg tcc ctc acc tgc act gtc 147
 Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val 40
 30 35
 tct ggt tac tcc atc agc ggt ggt tat tta tgg aac tgg ata cgg cag 195
 Ser Gly Tyr Ser Ile Ser Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln 45
 50 55

ccc cca ggg aag gga ctg gag tgg atc ggg tat atc agc tac gac ggt 243
 Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly
 60 65 70

acc aat aac tac aaa ccc tcc ctc aag gat cga gtc acc ata tca gtg 291
 Thr Asn Asn Tyr Lys Pro Ser Leu Lys Asp Arg Val Thr Ile Ser Val
 75 80 85 90

gac acg tcc aag aac cag ttc tcc ctg aag ctg agc tct gtg acc gct 339
 Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala
 95 100 105

gcg gac act gca gtg tat tac tgt gcg aga tac ggt agg gtc ttc ttt 387
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe
 110 115 120

gac tac tgg ggc cag gga acc ctg gtc acc gtc tcc tca ggtgagtgga 436
 Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 125 130

tcctctgcg 445

<210> 85
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 1 5 10 15

Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
 20 25 30

Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Tyr Ser Ile Ser
 35 40 45

Gly Gly Tyr Leu Trp Asn Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Ile Gly Tyr Ile Ser Tyr Asp Gly Thr Asn Asn Tyr Lys Pro
 65 70 75 80

Ser Leu Lys Asp Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln
 85 90 95

Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr
 100 105 110

Tyr Cys Ala Arg Tyr Gly Arg Val Phe Phe Asp Tyr Trp Gly Gln Gly
 115 120 125

Thr Leu Val Thr Val Ser Ser
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<210> 86
 <211> 445
 <212> DNA

<213> Homo sapiens

<400> 86

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ggaccatagg acagagtcca cgtcgaagtc ctcagcccgg gtcctgacca cttcggaagc 120
ctctgggaca gggagtggac gtgacagaga ccaatgaggt agtcgccacc aataaatacc 180
ttgacctatg ccgtcggggg tcccttcctt gacctcacct agcccatata gtcgatgctg 240
ccatggttat tgatgtttgg gagggagtgc ctagctcagt ggtatagtca cctgtgcagg 300
ttcttgggtc agagggactt cgactcgaga cactggcgac gcctgtgacg tcacataatg 360
acacgctcta tgccatccca gaagaaactg atgaccccgg tcccttgga ccagtggcag 420
aggagtccac tcacctagga gacgc 445
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<210> 87

<211> 18

<212> DNA

<213> Artificial sequence

<220>

<223> Description de la Artificial sequence:
Oligonucleotide

<400> 87

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<210> 88

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
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<400> 88

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accatgaagt tgctgttag gctgttggtg ct 32
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<210> 89

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 89

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<210> 90

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:

Oligonucleotide

<400> 90
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<210> 91
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 91
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<210> 92
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 92
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<210> 93
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 93
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<210> 94
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 94
 ggcaacttca tgggtggcggc acgcgttctg ac 32

<210> 95
 <211> 32

<212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 95
 gaaaccagaa catcagcacc aacagcctaa ca 32

 <210> 96
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 96
 ctgagtcac acaacatcac tgctggaagc ag 32

 <210> 97
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 97
 tctccagggg tgacgggcag ggagagtgga ga 32

 <210> 98
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 98
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 <210> 99
 <211> 31
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 99
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<210> 100
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 100
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<210> 101
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 101
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<210> 102
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 102
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<210> 103
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 103
 cactgaaaat cagcagagtg gaggctgagg at 32

<210> 104
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 104
 gttgggggttt attactgctt tcaaggttca ca 32

<210> 105
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 105
 tgttccgtgg acgttcggcc aagggaccaa gg 32

<210> 106
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 106
 tggaaatcaa acgtgagtgg atcctctgcg 30

<210> 107
 <211> 17
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 107
 tctgcaggta ccattgc 17

<210> 108
 <211> 21
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 108
 tgcaatggta cctgcagaag c 21

<210> 109
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 109
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<210> 110
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 110
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<210> 111
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 111
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<210> 112
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Description of artificial sequence:
 Oligonucleotide
 <400> 112
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<210> 113
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 113
taaaccctcaa catcctcagc ctccactctg ct 32

<210> 114
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 114
tccacggaac atgtgaacct tgaaagcagt aa 32

<210> 115
<211> 31
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 115
tttgatttcc accttggtcc cttggccgaa c 31

<210> 116
<211> 19
<212> DNA
<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 116
cgcagaggat ccactcacg 19

<210> 117
<211> 18
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<213> Artificial sequence

<220>
<223> Description of artificial sequence:
Oligonucleotide

<400> 117
gtcagaacgc gtgccgcc 18

<210> 118
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 118
 accatgaaag tgttgagtct gttgtacctc ttga 34

<210> 119
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 119
 cagccattcc tggatctctg tctcaggtgc agct 34

<210> 120
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 120
 tcaggagtcg ggcccaggac tggatgaagcc ttcg 34

<210> 121
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 121
 gagaccctgt ccctcacctg cactgtctct ggt 33

<210> 122
 <211> 33
 <212> DNA
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<220>
 <223> Description of artificial sequence:

Oligonucleotide

<400> 122
 tactccatca ccggtgggta tttatggaac tgg 33

<210> 123
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 123
 atacggcagc cccagggaa gggactggag tgg 33

<210> 124
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>
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<400> 124
 atggggata tcagctacga cggtaccaat aac 33

<210> 125
 <211> 34
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<220>
 <223> Description of artificial sequence:
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<400> 125
 tcaacacttt catggtggcg gcacgcgttc tgac 34

<210> 126
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<220>
 <223> Description of artificial sequence:
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<400> 126
 ataccaggaa tggctgtcaa gaggtacaac agac 34

<210> 127

<211> 34
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<220>
 <223> Description of artificial sequence:
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<400> 127
 tgggcccgcac tcctgaagct gcacctgaga cagg 34

<210> 128
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 128
 tgagggacag ggtctccgaa ggcttcacca gtcc 34

<210> 129
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
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 Oligonucleotide

<400> 129
 ccaccggtga tggagtaacc agagacagtg cagg 34

<210> 130
 <211> 34
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 130
 ccctgggggc tgccgtatcc agttccataa ataa 34

<210> 131
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 131
 tagctgatat accccatcca ctccagtccc tt 32

<210> 132
 <211> 16
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
 Oligonucleotide

<400> 132
 gttattggta ccgtcg 16

<210> 133
 <211> 21
 <212> DNA
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<220>
 <223> Description of artificial sequence:
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<400> 133
 tacgacggta ccaataacta c 21

<210> 134
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<220>
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<400> 134
 aaaccctccc tcaaggatcg aatcaccata tc 32

<210> 135
 <211> 32
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of artificial sequence:
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<400> 135
 acgtgacacg tccaagaacc agttctccct ga 32

<210> 136
 <211> 32
 <212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
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<400> 136

agctgagctc tgtgaccgct gcggacactg ca

32

<210> 137

<211> 32

<212> DNA

<213> Artificial sequence

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<223> Description of artificial sequence:
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<400> 137

gtgtattact gtgcgagata cggtagggtc tt

32

<210> 138

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 138

ctttgactac tggggccagg gaaccctggt ca

32

<210> 139

<211> 30

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
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<400> 139

ccgtctcctc aggtgagtgg atcctctgcg

30

<210> 140

<211> 32

<212> DNA

<213> Artificial sequence

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<223> Description of artificial sequence:
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<400> 140

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32

<210> 141
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 <400> 141
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 <210> 142
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 <400> 142
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 <210> 143
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 <213> Artificial sequence

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 <400> 143
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 <210> 144
 <211> 32
 <212> DNA
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 <220>
 <223> Description of artificial sequence:
 Oligonucleotide

 <400> 144
 agtagtcaaa gaagacccta ccgtatctcg ca 32

 <210> 145
 <211> 33
 <212> DNA
 <213> Artificial sequence

<220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 145

ctgaggagac ggtgaccagg gttccctggc ccc

33

<210> 146

<211> 18

<212> DNA

<213> Artificial sequence

<220>

<223> Description of artificial sequence:
Oligonucleotide

<400> 146

cgagaggat ccactcac

18

<210> 147

<211> 31

<212> DNA

<213> Homo sapiens

<400> 147

ctggttactc catcagcggg gggtatttat g

31

<210> 148

<211> 31

<212> DNA

<213> Homo sapiens

<400> 148

cataaataac caccgctgat ggagtaacca g

31

<210> 149

<211> 31

<212> DNA

<213> Homo sapiens

<400> 149

gggactggag tggatcgggt atatcagcta c

31

<210> 150

<211> 31

<212> DNA

<213> Homo sapiens

<400> 150

gtagctgata taccgatcc actccagtcc c

31

<210> 151

<211> 31

<212> DNA
 <213> Homo sapiens

<400> 151
 tccctcaagg atcgagtcac catatcacgt g 31

<210> 152
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 152
 cacgtgatat ggtgactcga tccttgaggg a 31

<210> 153
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 153
 gatcgagtca ccatatcagt ggacacgtcc aagaaccag 39

<210> 154
 <211> 39
 <212> DNA
 <213> Homo sapiens

<400> 154
 ctggttcttg gacgtgtcca ctgatattgt gactcgatc 39

<210> 155
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 155
 gcttccagca gtgatattgt gatgactcag t 31

<210> 156
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 156
 actgagtcac cacaatatca ctgctggaag c 31